

Title (en)
MULTI-STAGE OPTICAL AMPLIFIER

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Application
EP 91304590 A 19910521

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US 53066590 A 19900530

Abstract (en)
[origin: EP0459685A2] This invention relates to an Erbium-doped fiber amplifier having multiple stages (12,14) of amplification for providing enhanced performance. More specifically, optical means (20,28) is located intermediate first and second stages of doped optical amplifying fibers adapted to receive a pump signal at a pump wavelength where the optical means is adapted to modify the net gain characteristics of the multi-stage amplifier. Presently, all known Erbium-doped fiber amplifiers utilize relatively simple single stage amplifiers which support required ancillary optically passive components such as isolators, filters, pump multiplexers, power monitors and the like at either end of the amplifier. This requirement of having the passive optical element at an end of the optical amplifier not only lends to relatively stringent design and fabrication tolerances for a high performance optical amplifier, but it restricts the design of the Erbium-doped fiber amplifier to an embodiment which prevents exploitation of the various unique properties of the Erbium-doped fiber amplifier. <IMAGE>

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Citation (search report)
• [X] ELECTRONIC LETTERS, vol. 26, no. 10, 1st May 1990, pages 661-662, Enage, GB; H. MASUDA et al.: "High gain two-stage amplification with erbium-doped fibre amplifier"
• [XP] IEEE PHOTONICS TECHNOLOGY LETTERS, vol. 2, no. 12, December 1990, pages 866-868, New York, US; R. GILES et al.: "Dynamic gain equalization in two-stage fiber amplifiers"

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